



39. Over what lifecycle are renewable energy projects in Michigan economically evaluated?

Within utility programs, renewable energy projects are either developed by independent power-producers and the power is sold to the utility under a power purchase agreement, or the project is developed by the utility or purchased from an independent developer and the project then becomes part of the utility's ratebase.

Power purchase agreement contract lengths are generally less than the expected useful life of the project assets, reflecting greater risks of changes in economic conditions, technology, or of increasing project maintenance expenses with increasing age. Contract duration for wind or landfill gas generation is almost universally for 20 years. Contract duration for solar is usually for 12 years. Contract duration for anaerobic digestion and for hydropower is usually for 7 years, though occasionally contracts are longer, up to 20 years. The independent power producers participating in these contracts may or may not have assumed residual value in the project at the end of the contract.

Projects owned by the utility company are depreciated over a period somewhat shorter than the expected useful life of the project, so to avoid an unpaid regulatory asset that doesn't produce power. Depreciation rates for wind farms and solar systems are currently a matter of dispute before the Public Service Commission with a range of positions by the parties in which the shortest amortization period proposed is longer than the typical contract lengths cited above and the longest amortization period proposed is approximately 50% longer than the typical contract periods cited above.

Within the assets that make up a wind farm or a solar system, different elements have different expected useful lives; for example, the civil works, concrete base, and tower of a wind turbine is expected to be useful for 50 years while the blades, nacelle, and generation equipment likely have useful life of about 25 years. In normal course, such turbines would be retrofitted with new equipment on the old towers and used for a second generation of investments. In this case, the levelized cost of energy from the wind turbine would be calculated over a 25 year period. This is similar to utility practices with respect to steam electric plants fueled with coal or natural gas.